2003 Urban Water Conservation Program

Grant Application Package

October 1, 2002
(10/18/02 Version)

A-1 Urban Water Conservation Grant Application Cover Sheet

1. Applicant (Organization or affiliation): *City of West Covina*
2. Project Title: *Water Conservation and Field Improvements at City Parks*

3. Person authorized to sign and submit proposal:

Name, Title	*Shannon Yauchzee, Public Works Director*
Mailing address	*P.O. Box 1440, West Covina, CA 91793*
Telephone	*(626) 939-8425*
Fax	*(626) 939-8660*
E-mail	*shannon.yauchzee@westcov.org*

4. Contact person (if different):

Name, Title	*Barbara Briley, Administrative Analyst*
Mailing address	*P.O. Box 1440, West Covina, CA 9l793*
Telephone	*(626) 939-8425*
Fax	*(626) 939-8660*
E-mail	*barbara.briley@westcov.org*

5. Funds requested (dollar amount): $521,553.60
6. Applicant funds pledged (local cost share) (dollar amount): $347,702.40
7. Total project costs (dollar amount): $869,256.00

8. Estimated net water savings (acre-feet/year): 58.90
   Estimated total amount of water to be saved (acre-feet):
   Over 20 years 1,178

   Benefit/cost ratio of project for applicant: 1.316
   Estimated $/acre-feet of water to be saved: $28,696

9. Project life (month/year to month/year): 10/03-03/05
10. State Assembly District where the project is to be conducted: 60th
11. State Senate District where the project is to be conducted: 29th
12. Congressional District(s) where the project is to be conducted: 28th
13. County where the project is to be conducted: Los Angeles
14. Do the actions in this application involve physical changes in land use, or potential future changes in land use?
    (a) Yes
    (if yes, complete the land use check list at http://www.calfed.water.ca.gov/adobe_pdf/Questionnaires_EC_Permits_Land Use.pdf and submit it with the proposal

    (b) No No

A-2 Application Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the application;

The individual signing the form is authorized to submit the application on behalf of the applicant;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the application on behalf of the applicant; and

The applicant will comply with all terms and conditions identified in this Application Package if selected for funding.

_____	_____	_____
Signature	Name and title	Date

A-3 Application Checklist

Complete this checklist to confirm all sections of this application package have been completed.

Part A: Project Description, Organizational, Financial and Legal Information

_____A-1 Urban Water Conservation Grant Application Cover Sheet
_____A-2 Application Signature Page
_____A-3 Application Checklist
_____A-4 Description of project
_____A-5 Maps
_____A-6 Statement of work, schedule
_____A-7 Monitoring and evaluation
_____A-8 Qualification of applicant and cooperators
_____A-9 Innovation
_____A-10 Agency authority
_____A-11 Operation and maintenance (O&M)

Part B: Engineering and Hydrologic Feasibility (construction projects only)

_____B-1 Certification statement
_____B-2 Project reports and previous studies
_____B-3 Preliminary project plans and specifications
_____B-4 Construction inspection plan

Part C: Plan for Environmental Documentation and Permitting

_____C-1 CEQA/NEPA
_____C-2 Permits, easements, licenses, acquisitions, and certifications
_____C-3 Local land use plans
_____C-4 Applicable legal requirements

Part D: Need for Project and Community Involvement

_____D-1 Need for project
_____D-2 Outreach, community involvement, support, opposition

Part E: Water Use Efficiency Improvements and Other Benefits

_____E-1 Water use efficiency improvements
_____E-2 Other project benefits

Part F: Economic Justification, Benefits to Costs Analysis

_____F-1 Net water savings
_____F-2 Project budget and budget justification
_____F-3 Economic efficiency

Appendix: Benefit/Cost Analysis Tables

_____Tables 1; 2; 3; 4a, 4b, 4c, 4d; and 5

A-4 Description of Project

The City of West Covina intends to install water/cost-saving centralized irrigation in all of the City's parks and landscaped maintenance districts. This project is to install new irrigation controllers and associated appurtances in 11 of the City's parks, most of which have irrigation systems that are over 40 years old or have areas that have no irrigation at all.

The goals of the project are (1) reduce water consumption thereby reducing utility costs, (2) improve park turf conditions to provide better play fields and recreation uses, and (3) provide ongoing monitoring of the water usage for in-house purposes as well as public information. The objectives to reach these goals are (1) secure funding for the installation of the water/cost-saving centralized irrigation system, (2) purchase equipment and hire contractor to install system, and (3) insure staffing levels to monitor/report water usage and ongoing park maintenance.

The proposed radio-sensored controllers will be linked via satellite to a central computer in the City's Maintenance Division. The system will adjust irrigation schedules according to climate and precipitation. It will also report problems in the field and provide reports on water usage. It allows users to maximize water savings by applying just enough water to meet weather and soil moisture conditions.

Staff installed and tested the proposed system on a six-acre area. Utilizing this system, the City was able to reduce water consumption in the test area by 37%. However, due to the high cost, the City is looking into phasing in the installation of new irrigation systems as well as actively pursuing additional funding sources to complete the project. The City has received a $20,000 grant from the Federal Bureau of Reclamation for the project.

The parks and locations are as follows:

<u>Phase 1</u>

Friendship Park, 3740 Sentous
Gingrich Park, 1935 Woodgate
Orangewood Park, 1615 Merced
Palmview Park, 1340 Puente
Shadow Oak Park, 2121 Shadow Oak
Walmerado Park, 625 Merced

<u>Phase 2</u>

Cameron Park, 1305 Cameron
Del Norte Park, 1500 Rowland
Woodgrove Park, 2001 Brentwood
Cortez Park, 2441 Cortez
Galster Park, 1620 Aroma

Once installed, the City anticipates an annual reduction in water consumption of 58.9 acre feet resulting in a savings of $29,000, as well as an annual savings of $54,000 in operations and maintenance costs. The cost benefit ratio analysis for each of these locations was calculated to be from 1.316.

Additionally, the data provided by the system will allow staff to accurately monitor and record water reduction and to share the information with other public or private agencies that are interested in installing this water-saving system.

Moreover, the new irrigation lines will substantially improve the turf area particularly those areas that are not being irrigated properly. These parks are used extensively for recreation and/or sports activities. With the high volume of usage, it is vital for the City to maintain the turf in peak condition. Installing the new irrigation systems within the parks is a win-win-win for the City, the community, and for the Department of Water Resources' water conservation and efficiency efforts.

A-5 Maps

Map 1 shows the City of West Covina with the parks highlighted
Map 2 is an aerial picture of Cameron Park
Map 3 is an aerial picture of Cortez Park
Map 4 is an aerial picture of Del Norte Park
Map 5 is an aerial picture of Friendship Park
Map 6 is an aerial picture of Galster Park
Map 7 is an aerial picture of Gingrich Park
Map 8 is an aerial picture of Orangewood Park
Map 9 is an aerial picture of Palmview Park
Map 10 is an aerial picture of Shadow Oak Park
Map 11 is an aerial picture of Walmerado Park
Map 12 is an aerial picture of Woodgrove Park

A-6 Statement of Work, Schedule

Statement of Work

The project consists of installing evapo-transpiriation (ET) controllers in eleven of the City's parks. This system is capable of storing and processing a multitude of information. This system links satellite controllers, weather stations, and flow and moisture sensors in the field to a central computer (shown on Attachment __). The field controllers and sensors communicate via satellite to specialized water management software located in the City's Maintenance Division

An ET gage monitors the daily ET rate. The ET rate is important because it determines the amount of water that evaporates from the soil and the water that is released. The ET rate is transmitted via _____ to a central computer located in the Maintenance Division. The ET rate is then encrypted and transmitted via satellite to

The irrigation controller proposed for the project is a Calsense RT2000. This controller

Project Plan/Work Schedule

The installation of the controllers and associated material must be completed at the parks during periods that will have the least amount of impact on park activities particularly scheduled sports league. In addition, the parks will be completed based on the deficient condition of the park. The following schedule is based on these criteria.

Phase 1

Quarter No. 1
October-December 2003

		Cost
Task 1:	Execute contract with DWR	N/A
Task 2:	Publish article in Discover West Covina monthly newspaper and website	*
Task 3:	Order Equipment	$8,800
Task 4:	Install controller/irrigation material at Friendship Park	$71,862
Task 5:	Install controller/irrigation material at Palmview Park	$78,588
Task 6:	Install controller/irrigation material at Walmerado Park	$71,508
Total Cost Quarter No. 1		$230,758

Quarter No. 2
January-March 2004

Task 7:	Install controller/irrigation material at Gingrich Park	$72,688
Task 8:	Install controller/irrigation material At Shadow Oak Park	$35,400
Total Cost Quarter No. 2		$108,088

Quarter No. 3
April-June 2004

Task 9:	Install controller/irrigation material at Orangewood Park	$75,048
Total Cost Quarter No. 3		$75,048

Total Cost Phase 1 $413,894

Phase 2

Quarter No. 4
July-September 2004

Task 10:	Install controller/irrigation material at Galster Park	$31,978
Task 11:	Install controller/irrigation material at Woodgrove Park	$78,116
Total Cost Quarter No. 4		$110,094

Quarter No. 5
October-December 2004

Task 12:	Install controller/irrigation material at Cortez Park	$140,420
Task 13:	Install controller/irrigation material at Cameron Park	$102,542
Task 14	Install controller/Irrigation material at Del Norte Park	$102,306
Total Cost Quarter No. 5		$345,268

Quarter No. 6
January-March 2005

Task 15:	Publish article in Discover West Covina monthly newspaper and website showing one-year results of Task 4, 5, 6	*
Total Cost Quarter No. 6		

Total Cost Phase 2 $455,362

TOTAL PROJECT COSTS $869,256

*City will absorb cost for advertising

A-7 Monitoring and Evaluation

All of the parks currently have dedicated meters and staff has obtained past history for each of the meters detailing the water usage and associated costs. The progress of this project will be easy to monitored based on water costs pre and post installation of the centralized irrigation system as well as data transmitted from the irrigation controllers to a central computer.

The computerized system is capable of providing a multitude of information such as water usage for individual valves, climatic conditions, reporting problems in the field, such as leaks, and non-irrigated times (Attachments A, B).

A-8 Qualifications of the Applicant and Cooperators

The City of West Covina is a municipal agency incorporated in 1923 with a current population of 105,000. West Covina has over 500 acres of City-maintained landscaped areas that includes 169.6 acres of City parks.

Landscape maintenance in the City of West Covina is performed by contract services. The Public Works' Maintenance Division is responsible for overseeing landscape maintenance activities in the City. The City will continue to provide the funding necessary for the on-going maintenance costs for the new irrigation systems.

For the purpose of the proposed project, Michael Shott, Public Works Project Supervisor, will be the project manager. Mr. Shott can be reached at (626) 939-8425. Once the installation has been completed, Curtis Roberts, Park Maintenance Supervisor, will provide ongoing monitoring and assessment of the project. Mr. Roberts can be reached at (626) 939-8458.

The project will be completed by a licensed C-27 landscape maintenance contractor.

A-9 Innovation

Centralized irrigation systems have been installed by numerous public agencies and private companies. They have proven to be successful in the effort to reduce water consumption and promote water use efficiency. Likewise, West Covina believes the installation of the ET controllers is essential in the effort to reduce water and save tax dollars.

A-10 Agency Authority

Q1. Does the applicant (official signing A-2, Application Signature Page) have the legal authority to submit an application and to enter into a funding contract with the State? Provide documentation such as an agency board

resolution or other evidence of authority.

A1. Yes, the Public Works Director by his appointed position has the legal authority to submit an application and enter into a funding contract with the State. A City Council resolution will be provided if necessary.

Q2. What is the legal authority under which the applicant was formed and is authorized to operate?

A2. The legal authority under which the City was formed was incorporation in 1923.

Q3. Is the applicant required to hold an election before entering into a funding contract with the State?

A3. No, the City's Municipal Code does not require an election before entering into a funding contract with the State.

Q4. Will the funding agreement between the applicant and the State be subject to review and/or approval by other government agencies? If yes, identify all such agencies (e.g. Local Area Formation Commission, local governments, U.S. Forest Service, California Coastal Commission, California Department of Health Services, etc.).

A4. No, the funding agreement will not be subject to review and/or approval by any other government agency.

Q5. Is there any pending litigation that may impact the financial condition of the applicant, the operation of the water facilities, or its ability to complete the proposed project? If none is pending, so state.

A5. No, there is no pending litigation that may impact the financial condition of the City or the ability to complete the proposed project. The City does not operate a water facility.

A-11 Operations and Maintenance

(Required for construction projects only, including meter installations.)

This section is not required for the proposed project.

Application Part B—Engineering and Hydrologic Feasibility

(Application Part B required for construction projects only, including meter installations.)

This section is not required. No permits will be required for this project.

Application Part C—Plan for Completion of Environmental Documentation and Permitting Requirements

C-1 California Environmental Quality Act and National Environmental Policy Act

- A detailed plan for compliance with all applicable environmental laws.

  The City's Planning Department has reviewed the project and determined this project to be categorically exempt in compliance with Class 4, Section 15304: Minor Alteration of Land) Categorical Exemption from the provisions of the California Environmental Quality Act (CEQA) since the proposed property is a developed park and the project will not impact the Master Plan for the park.

- A schedule for completion of all appropriate environmental documentation.

  Once the project funding has been approved, a "Class 4, Categorical Exemption" will be filed with the County Clerk of the County of Los Angeles.

- Environmental Impact Checklist.

  Not required.

C-2 Permits, Easements, Licenses, Acquisitions, and Certifications

None required.

C-3 Local Land Use Plans

The proposed properties are developed parks and the project will not impact the Master Plan for the parks since it consists of the replacement of the existing irrigation systems with an updated water efficient centralized irrigation systems and the installation of new irrigation lines and turf as needed in an existing, heavily used, City of West Covina recreational park.

C-4 Applicable Legal Requirements

This section is not applicable since the City is not a water purveyor and the project will impact any laws, statutes, regulations or ordinances pertaining to surface or groundwater.

Application Part D- Need for Project and Community Involvement

D-1 Need for the Project

The City of West Covina needs this project for several reasons. (1) Seven of the City's parks are over 40 years old and irrigation is in dire need to be replaced. Because of this need, the City is looking at the best long-term needs. (2) For the past twelve years, the City has been actively partaking in water conservation efforts. They have conserved a considerable amount of water over the past twelve years by hiring a water conservation specialist to reprogram controllers according to weather conditions. This reduction in water consumption has also reduced utility costs. The centralized irrigation system will further demonstrate the City's commitment towards water conservation and eliminate the need to manually adjust meters. (3) The centralized irrigation system will also reduce the amount of surface runoff due to over-watering thereby reducing the amount of contaminants flowing into the storm drain system. (4) There is a critical need for everyone to conserve water which has become a precious and sometimes scarce commodity.

Locally, the new and improved irrigation system will provide a significant benefit to the leagues and sports groups as well as other pedestrian park users. The following table illustrates the number of organized youth sports groups at each of the parks:

PARK	ACTIVITY	LEAGUE	NUMBER OF PARTICIPANTS
Cameron	Baseball Softball	Little Shots West Covina Softball League	350 600
Cortez	Baseball Football	American Little League West Covina Bruins	300 300
Del Norte	Baseball	National Little League	250
Friendship	Baseball *Rec N Roll	Galaxy Little League	500 weekly 20-25 weekly
Gingrich	Baseball	Galaxy Little League	200 weekly
Orangewood	Baseball	Pony/Colt League	1,000 weekly
Palmview	Baseball Baseball Rec Program	Pacific Coast Little League Little Shots	600 weekly 150 weekly 50-60 daily
Shadow Oak	Baseball Baseball Softball Cricket Soccer	San Jose Little League Little Shots Women's Fast Pitch	330 weekly 150 weekly 50 weekly 30-50 weekly 30-40 weekly
Walmerado	Baseball	Pony/Colt League	1200

*Rec N Roll is a portable recreation program that travels to parks and school sites.

There is also a need for this project on many other levels not only locally, but for surrounding cities and counties, and statewide because the high demand for potable water. Even the surrounding states "Tri-States" are severely impacted because of the drain on the Colorado River, which is the main water source for the fast-growing states of California, Nevada, and Arizona.

It is especially critical in Los Angeles County because of the large population and the fact that most of the water must be imported such a long distance. In West Covina, only __% of the water is from underground water sources, the majority of water is imported from the Colorado River.

One of the main reasons for the lack of ground water available is because the San Gabriel underground river has literally dried up. In addition, many of the underground wells in the area have been closed because they have been contaminated with perchlorates.

The major water purveyor serving West Covina is Suburban Water Systems. Suburban purchases 95% of their water from the Metropolitan Water District (MWD). Suburban currently supplies water to eight of the City's parks – Cameron, Cortez, Galster, Gingrich, Orangewood, Shadow Oak, Walmerado, and Woodgrove Parks.

Two of the City's parks, Del Norte and Palmview Parks, are served by Azusa Light and Water Department. Approximately 65% of the water provided by Azusa Water Department is from surface water from their Azusa Canyon reservoir, 30% is from underground wells, and 5% is purchased from MWD. MWD water is only used under drought conditions.

The last park, Friendship Park, is served by Walnut Water Company. This is currently the only park in the City that is served with recycled water for irrigation. However, we currently working on a cooperative agreement with the City of Industry to provide recycle water to the City's south parks and open space areas. The parks affected may include Galster, Gingrich, Shadow Oak and Woodgrove. The City is currently waiting on the submittal of a draft agreement from the City of Industry. They intend to construct transmission main down a main arterial street in the City. The City will be required to install lateral service lines from the main transmission to each of the locations. This is only in a conceptual stage.

D-2 Outreach, Community Involvement, Support, Opposition

The City has received letters of support for the centralized irrigation project from Suburban Water Systems, the largest water purveyor in West Covina; the US Department of the Interior, Bureau of Reclamation; the Upper San Gabriel Valley Water District, a member agency for the Metropolitan Water District; and numerous sports groups in the City of West Covina. The support letters from these entities are included in this proposal.

The City of West Covina utilizes various media venues to keep its residents informed and involved with issues and events. This cooperative project will be ideal to advertise in the City's monthly newspaper with a picture and article describing the many benefits of the project made possible from Proposition 13 Urban Water Conservation Program funding.

Another media venue is the City's web site www.westcov.org. City staff provides continual updates of City projects and events. The project information would be put on the web site making it easily accessible to the public at large.

Application Part E—Water Use Efficiency Improvements and Other Benefits

E-1 Water Use Efficiency Improvements

Water use efficiency will be greatly improved by the installation of a centralized irrigation system with ET controllers. The City has factual data that shows a 37% decrease in water consumption. As a conservation benchmark for this grant, a 30% reduction rate has been used to calculate potential savings. As shown on Attachment C, the City should realize a savings of over $30,000 annually in water reduction savings.

The City should also realize a savings of almost $54,000 in operations and maintenance costs. This reduction is due to the fact that most of the irrigation controllers and irrigation systems in the parks are over 40 years old. They have exceeded their life expectancy and much of it has been patch-repaired to keep the system operational. There are even some areas in the parks that have no irrigation at all.

By replacing the irrigation system it will increase the value in water use efficiency by applying just enough water to meet weather and soil moisture conditions thereby reducing the amount of consumed and associated costs.

E-2 Other Project Benefits

Other project beneficiaries are shown under Section F-3, Economic Efficiency.

Application Part F – Economic Justification: Benefits to Costs

F-1 Net Water Savings

Based on data accumulated over the past several years, it is estimated that the City should realize a savings of at least 30% annually with the installation of the centralized irrigation system. The net water savings is calculated to be 58.90 acre feet annually with a benefit/ cost ratio of 1.316.

Attachment C illustrates the savings estimated for each park as well as the water purveyor that services each park, current water costs, and projected savings. Table 4, Water Supply Benefits, further illustrates the avoided costs of current supply sources. It lists the supply source, the cost of water per acre foot, the annual amount of displaced water per acre foot, and the total annual avoided costs.

The estimates are based on the water losses to the atmosphere through evaporation and transpiration. These losses are measured by through a flow meter and the information is transmitted to the ET controller. Attachments A & B are sample reports of data transmitted from the ET controller via satellite to a central computer with water management software. This data shows a history of water savings in the test area over a specific period of time. It also provides water usage for individual valves, climatic conditions, reporting problems in the field, such as leaks, and non-irrigated times.

F-2 Project Budget and Budget Justification

As required, a Itemized Materials list is provided on Attachment D. This is a completed list of material needed for each park. Also included is a list of additional equipment that will be needed in the general operation of the ET controllers.

A detailed Project Budget is provided on Attachment E. This spreadsheet breaks down the costs of design, material/installation, 8% administration/overhead costs and 10% contingency costs for each of the parks.

Attachment F is the proposed Project Funding which is broken down into Phase 1 and Phase 2. It lists each park and the funding allocated between the City of West Covina and the Federal Bureau of Reclamation, and the State Prop 13 Urban Water Conservation Grant. The Federal Bureau of Reclamation has already granted the City $20,000 for the project. The City is requesting grant funds in the amount of $521,553.60 from Prop 13 funding, and will provide matching funds in the amount of $327,702.40.

Table 1, Capital Costs, illustrates the total Capital Costs including a 10% contingency factor and 8 percent administration/ overhead. Based on a 20 year .0872 Capital Recovery Factor, the annual Capital Costs is estimated to be $75,799. With the reduction in operations and maintenance costs of $53,900, the total annual cost for the project is $21,800. Calculating the annual project benefits to be $28,696, the benefit/cost ratio is 1.316.

F-3 Economic Efficiency

As shown on the table below there are direct economic benefits to all project participants relative to the cost of the project although the water purveyors are not directly providing monetary support, the project does support their effort for water reduction pursuant to CALFED program objectives and principles.

Beneficiary	Benefit	Measurement
City of West Covina	Water savings Operations/Maintenance Savings	$28,696 $53,900 $82,600 annually
Suburban Water Company	Water reduction pursuant to CALFED program objectives and principles	38.28 acre feet reduction annually
Walnut Water Company	Water reduction pursuant to CALFED program objectives and principles	6.3 acre feet reduction annually
Azusa Water & Power	Water reduction pursuant to CALFED program objectives and principles	14.32 acre feet reduction annually
Community	Improved field conditions	Satisfied patrons

Additionally, as shown under Part D-1, Need for the Project, there are numerous sports groups and other pedestrian park users that will benefit from the project. With the high volume of park usage, the improved turf condition will provide better playing fields and both organized sports activities and family recreation activities.

Appendix- Benefit/Cost Analysis Tables

Table 1: Capital Costs

	Capital Cost Category *(a)*	Cost *(b)*	Contingency Percent *(c)*	Contingency $ *(d)* *(bxc)*	Subtotal *(e)* *(b+d)*
(a)	Land Purchase/Easement	$0	0	$0	$0
(b)	Planning/Design/Engineering	$40,000	10%	$4,000	$44,00
(c)	Materials/Installation	$697,200	10%	$69,720	$766,920
(d)	Structures	$0	0	$0	$0
(e)	Equipment Purchases/Rentals	$0	0	$0	$0
(f)	Environmental Mitigation/ Enhancement	$0	0	$0	$0
(g)	Construction/Administration/ Overhead	$58,336	0	$58,336	$58,336
(h)	Project Legal/License Fees	$0	0	$0	$0
(i)	Other	$0	0	$0	$0
(j)	Total **(1)** (a + ... + i)	$795,536	0	$73,720	$869,256
(k)	Capital Recovery Factor: use Table 6	.0872		.0872	.0872
(l)	Annual Capital Costs (j x k)	$69,371		$6,428	$75,799

(1) Costs must match Project Budget prepared in Section F-2.

Table 2: Annual Operations and Maintenance Costs

Administration *(a)*	Operations *(b)*	Maintenance *(c)*	Other *(d)*	Total *(e)*
$6,200	($25,500)	($31,100)	($3,500)	($53,900)

Table 3: Total Annual Costs

Annual Capital Costs (1) *(a)*	Annual O&M Costs (2) *(b)*	Total Annual Costs *(c)* *(a+b)*
$75,799	($53,900)	$21,800

(1) From Table 1 line (l)
(2) From Table 2 Total, column *(e)*

Table 4: Water Supply Benefits

Net water savings (acre-feet/year) ___**58.90**_____

4a. Avoided Costs of Current Supply Sources

Sources of Supply *(a)*	**Cost of Water ($/AF)** *(b)*	**Annual Displaced Supply (AF)** *(c)*	**Annual Avoided Costs ($)** *(d)* *(b x c)*
Suburban Water Systems	$471.47	38.28	$18,048
Walnut Valley Water	$593.17	6.30	$3,737
Azusa Water & Power	$482.61	14.32	$6,911
Total	$1,547.25	58.90	$28.696

4b. Alternative Costs of Future Supply Sources

Future Supply Sources *(a)*	**Total Capital Costs ($)** *(b)*	**Capital Recovery Factor (1)** *(c)*	**Annual Capital Costs ($)** *(d)* *(b x c)*	**Annual O&M Costs ($)** *(e)*	**Total Annual Avoided Costs ($)** *(f)* *(d + e)*
		N/A			
Total					

(1) 6% discount rate; Use Table 6- Capital Recovery Factor

4c. Water Supplier Revenue (Vendibility)

Parties Purchasing Project Supplies *(a)*	Amount of Water to be Sold *(b)*	Selling Price ($/AF) *(c)*	Expected Frequency of Sales (%) (1) *(d)*	Expected Selling Price ($/AF) *(e)* *(c x d)*	"Option" Fee ($/AF) (2) *(f)*	Total Selling Price ($/AF) *(g)* *(e + f)*	Annual Expected Water Sale Revenue ($) *(h)* *(b x g)*
		N/A					
Total							

(1) During the analysis period, what percentage of years are water sales expected to occur? For example, if water will only be sold half of the years, enter 50% (0.5).

(2) "Option" fees are paid by a contracting agency to a selling agency to maintain the right of the contracting agency to buy water whenever needed. Although the water may not be purchased every year, the fee is usually paid every year.

4d: Total Water Supply Benefits

(a) Annual Avoided Cost of Current Supply Sources ($) from 4a, column (*d*)	$28,696
(b) Annual Avoided Cost of Alternative Future Supply Sources ($) from 4b, column (*f*)	0
(c) Annual Expected Water Sale Revenue ($) from 4c, column (*h*)	0
(d) Total Net Annual Water Supply Benefits ($) (a + b + c)	$28,696

Table 5: Benefit/Cost Ratio

Project Benefits ($) (1)	**$28,696**
Project Costs ($) (2)	**$21,800**
Benefit/Cost Ratio	**1.316**

(1) From Tables 4d, row (d): Total Annual Water Supply Benefits
(2) From Table 3, column (*c)* : Total Annual Costs

Table 6: Capital Recovery Factor

(Use to obtain factor for Table 1, Line k or Table 4b, Column *(c)*

Life of Project (in years)	Capital Recovery Factor
7	0.1791
8	0.1610
9	0.1470
10	0.1359
11	0.1268
12	0.1193
13	0.1130
14	0.1076
15	0.1030
16	0.0990
17	0.0954
18	0.0924
19	0.0896
20	0.0872
21	0.0850
22	0.0830
23	0.0813
24	0.0797
25	0.0782
26	0.0769
27	0.0757
28	0.0746
29	0.0736
30	0.0726
31	0.0718
32	0.0710
33	0.0703
34	0.0696
35	0.0690
36	0.0684
37	0.0679
38	0.0674
39	0.0669
40	0.0665
41	0.0661
42	0.0657
43	0.0653
44	0.0650
45	0.0647
46	0.0644
47	0.0641
48	0.0639
49	0.0637
50	0.0634

California Department of Water Resources
Office of Water Use Efficiency
P.O. Box 942836
Sacramento, CA 94236-0001

ATTACHMENT C
PURVEYOR INFORMATION

Location	Year Installed	Irrig. Acres	Water Purveyor	Current Costs: Current Water Cost	Current Costs: Units Consump.	Current Costs: Acre Feet	Projected Savings: 30% Water Savings	Projected Savings: Units Consump.	Projected Savings: Acre Feet
Cameron	1952	14.3	Suburban	$ 9,800	8,600	19.74	$ 2,794	2,580	5.92
Cortez	1957	20.2	Suburban	$ 8,700	6,400	14.69	$ 2,079	1,920	4.41
Galster	1963	7.8	Suburban	$ 4,200	2,100	4.82	$ 682	630	1.45
Gingrich	1975	8.0	Suburban	$ 10,000	7,900	18.14	$ 2,567	2,370	5.44
Orangewood	1961	8.3	Suburban	$ 9,800	6,900	15.84	$ 2,242	2,070	4.75
Shadow Oak	1980	26.2	Suburban	$ 18,000	13,300	30.53	$ 4,321	3,990	9.16
Walmerado	1962	5.7	Suburban	$ 6,700	4,750	10.90	$ 1,543	1,425	3.27
Woodgrove	1984	6.6	Suburban	$ 7,600	5,600	12.86	$ 1,819	1,680	3.86
Subtotal Suburban Water Systems				$ 74,800	55,550	127.53	$ 18,048	16,665	38.26
Palmview	1958	7.9	Azusa	$ 12,900	9,900	22.73	$ 3,274	2,970	6.82
Del Norte	1956	8.3	Azusa	$ 14,100	10,900	25.02	$ 3,637	3,270	7.51
Subtotal Azusa Water & Power				$ 27,000	20,800.00	47.75	$ 6,911	6,240	14.33
Friendship	1967	6.0	Walnut	$ 11,900	9,160	21.03	$ 3,737	2,748	6.31
Subtotal Walnut Valley Water				$ 11,900	9,160	21.03	$ 3,737	2,748	6.31
TOTAL				$ 113,700	$ 85,510	196.30	$ 28,696	25,653	58.89

Water Rates:

Suburban		1.083
Walnut Valley (Recycled)		1.360
Azusa Water & Power	0-200	0.765
	200+	1.210

ATTACHMENT D
ITEMIZED MATERIALS LIST

METER LOCATION	CONTROLLER W/RADIO REMOTE COMMUNICATIO					FLOW METER	STEEL ENCLOSURE	MASTER VALVE	OTHER IRR. MATERIA	TOTAL
	12 STATION	16 STATION	24 STATION	32 STATION	40 STATION					
Cameron Park, Restroom					$4,700	$500		$200	$74,000	$79,400
Cortez Park, Patio				$4,400		$500	$2,000	$200	$29,000	$36,100
Cortez Park, Senior Center			$3,900				$2,000		$28,000	$33,900
Cortez, Park, Snack Bar			$3,900	$4,400		$500	$2,000	$200	$28,000	$39,000
Del Norte Park, Restroom			$3,900			$500	$2,000	$200	$34,000	$40,600
Del Norte Park, Tennis Courts			$3,900			$500		$200	$34,000	$38,600
Friendship Park, Store Room				$4,400		$500			$56,000	$60,900
Galster Park, Store Room				$4,400		$500		$200	$22,000	$27,100
Gingrich Park, Tool Room			$3,900			$500		$200	$57,000	$61,600
Orangewood Park, Little League		$3,500							$24,000	$27,500
Orangewood Park, Restroom			$3,900			$500		$200	$24,000	$28,600
Palmview Park, Rest Room			$3,900			$500		$200	$62,000	$66,600
Shadow Oak Park, Lower Lot	$3,300					$500		$200	$5,000	$9,000
Shadow Oak Park, Restroom			$3,900						$5,000	$8,900
Shadow Oak Park, Center North				$4,400		$500	$2,000	$200	$5,000	$12,100
Walmerado Park, Restroom			$3,900			$500		$200	$56,000	$60,600
Woodgrove Park, Restroom			$3,900			$500		$200	$24,000	$28,600
Woodgrove Park, Restroom				$4,400		$500		$200	$25,000	$30,100
MATERIALS SUBTOTAL	**$3,300**	**$3,500**	**$39,000**	**$26,400**	**$4,700**	**$7,500**	**$10,000**	**$2,800**	**$592,000**	**$689,200**
ADDITIONAL MATERIAL COSTS										
ETG Interface for ET Gage										$400
ET Gage										$1,400
ET Gage Vandal-Resistant Enclosure										$700
ET-32 Station irrigation controller w/local radio and radio remote communications										$2,900
Antenna cable, custom length includes end connectors, costs per foot										$1,800
Radio remote transmitter for radio remote receiver board										$800
Centralized water management software (already purchased)										$0
ADDITIONAL MATERIALS SUBTOTAL										**$8,000**
OTHER COSTS										
Administration/Overhead										$58,336
Contingency										$73,720
Design										$40,000
OTHER COSTS SUBTOTAL										**$172,056**
PROJECT GRAND TOTAL										**$869,256**

ATTACHMENT E
PROJECT BUDGET

Location	(a) Land/Purch. Easement	(b) Plan/Design/ Egineering	(c) Material/ Installation	(d) Structures	(e) Equip. Purch. Rentals	(f) Environ. Mit. Enhancement	(g) Constr. Admn. Overhead	(h) Legal & License Fees	(i) Other	(j) Contingency	Total Cost
Cameron	$ -	$ 7,500	$ 79,400	$ -	$ -	$ -	$ 6,952	$ -	$ -	$ 8,690	$ 102,542
Cortez	$ -	$ 10,000	$ 109,000	$ -	$ -	$ -	$ 9,520	$ -	$ -	$ 11,900	$ 140,420
Del Norte	$ -	$ 7,500	$ 79,200	$ -	$ -	$ -	$ 6,936	$ -	$ -	$ 8,670	$ 102,306
Friendship	$ -	Have design	$ 60,900	$ -	$ -	$ -	$ 4,872	$ -	$ -	$ 6,090	$ 71,862
Galster	$ -	Not needed	$ 27,100	$ -	$ -	$ -	$ 2,168	$ -	$ -	$ 2,710	$ 31,978
Gingrich	$ -	Have design	$ 61,600	$ -	$ -	$ -	$ 4,928	$ -	$ -	$ 6,160	$ 72,688
Orangewood	$ -	$ 7,500	$ 56,100	$ -	$ -	$ -	$ 5,088	$ -	$ -	$ 6,360	$ 75,048
Palmview	$ -	Have design	$ 66,600	$ -	$ -	$ -	$ 5,328	$ -	$ -	$ 6,660	$ 78,588
Shadow Oak	$ -	Not needed	$ 30,000	$ -	$ -	$ -	$ 2,400	$ -	$ -	$ 3,000	$ 35,400
Walmerado	$ -	Have design	$ 60,600	$ -	$ -	$ -	$ 4,848	$ -	$ -	$ 6,060	$ 71,508
Woodgrove	$ -	$ 7,500	$ 58,700	$ -	$ -	$ -	$ 5,296	$ -	$ -	$ 6,620	$ 78,116
Add'l Equipment			$ 8,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 800	$ 8,800
TOTALS		**$ 40,000**	**$ 697,200**	**$ -**	**$ -**	**$ -**	**$ 58,336**	**$ -**	**$ -**	**$ 73,720**	**$ 869,256**

ATTACHMENT F
PROJECT BUDGET

Parks	Proposed Funding			
	Federal Bureau of Reclamation	**City of West Covina**	**Prop 13 Urban Water Conservation Grant**	**Total**
Phase 1				
Friendship	$3,334.00	$25,410.80	$43,117.20	$71,862.00
Palmview	$3,334.00	$28,101.20	$47,152.80	$78,588.00
Walmerado	$3,333.00	$25,270.20	$42,904.80	$71,508.00
Gingrich	$3,333.00	$25,742.20	$43,612.80	$72,688.00
Shadow Oak	$3,333.00	$10,827.00	$21,240.00	$35,400.00
Orangewood	$3,333.00	$26,686.20	$45,028.80	$75,048.00
Additional Equipment		$3,520.00	$5,280.00	$8,800.00
Subtotal Phase 1	**$20,000.00**	**$145,557.60**	**$248,336.40**	**$413,894.00**
				$413,894.00
Phase 2				
Galster		$12,791.20	$19,186.80	$31,978.00
Woodgrove		$31,246.40	$46,869.60	$78,116.00
Cortez		$56,168.00	$84,252.00	$140,420.00
Cameron		$41,016.80	$61,525.20	$102,542.00
Del Norte		$40,922.40	$61,383.60	$102,306.00
Subtotal Phase 2	**$0.00**	**$182,144.80**	**$273,217.20**	**$455,362.00**
PROJECT GRAND TOTAL	**$20,000.00**	**$327,702.40**	**$521,553.60**	**$869,256.00**
				$869,256.00